UNITED NATIONS
ECONOMIC AND SOCIAL COUNCIL

Distr.: GENERAL
E/ECA/TPCW.4/6
7 March 1983
Original: ENGLISH

ECONOMIC COMMISSION FOR AFRICA

SILVER JUBILEE ANNIVERSARY MEETINGS

Fourth meeting of the Technical Preparatory Committee of the Whole

Addis Ababa, Ethiopia, 14-22 April 1983

LC/NAIROBI

REPORT OF THE FIFTH UNITED NATIONS REGIONAL CARTOGRAPHIC CONFERENCE FOR AFRICA

A. ORGANIZATION AND ATTENDANCE

1. The fifth United Nations Regional Cartographic Conference for Africa was held in Cairo, Egypt, from 28 February to 7 March 1983. The Economic Commission for Africa and the Government jointly organized it and provided all necessary facilities and services for the meetings.

2. The Conference was officially opened by His Excellency Engineer Ahmed Ez El-Din-Helal, Deputy Prime Minister, on behalf of His Excellency Mohamed Hosni Moubarek, President of the Arab Republic of Egypt.

3. The Conference was attended by representatives of 21 member States namely, Algeria, Burundi, Chad, the Congo, Djibouti, Egypt, Ethiopia, Gabon, Guinea, the Ivory Coast, Kenya, Mauritania, Morocco, Nigeria, Rwanda, Senegal, Tunisia, the United Republic of Cameroon, the United Republic of Tanzania, the Upper Volta and Zaire.

4. The following regional and international organizations also attended: the Regional Centre for Training in Aerial Surveys (RECTAS), the Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS), the African Association of Cartography (AAC), the Commission for Geodesy in Africa (CGA), International Cartographic Association (ICA), International Civil Aviation Organization (ICAO) and International Co-ordination of Space Techniques for Geodesy and Geodynamics (CSTG).

5. Observers from the following Governments were also in attendance: Canada, China, France, the Federal Republic of Germany, the Netherlands, Poland, the Union of Soviet Socialist Republics, the United Kingdom and the United States of America.

6. The Conference adopted its rules of procedure in accordance with the "Terms of Reference and Rules of Procedure of the Economic Commission for Africa".

7. The Conference elected the following officers:

President:	Mr. Abdel Fattah Habil	(Egypt)
First Vice-President:	Mr. Martial Bizenga	(Congo)
Second Vice-President:	Mr. Alpha Cisse	(Ivory Coast)
Rapporteur:	Mr. Admassu Gebrehiwot	(Ethiopia)

8. The following officers were elected to the three technical committees:

Committee I

Chairman:	Mr. S.M. Thiam	(Senegal)
Vice-Chairman:	Mr. O. Adebekun	(Nigeria)
Rapporteurs:	Mr. A. Wassef	(Egypt)
	Mr. Said Doulah Idleh	(Djibouti)

Committee II

Chairman:	Mr. Belgacem Nacer	(Algeria)
Vice-Chairman:	Mr. Telesphore Bizimungu	(Rwanda)
Rapporteur:	Mr. Saa Sandouno	(Guinea)

Committee III

Chairman:	Mr. Belbachir Abdelatif	(Morocco)
Vice-Chairman:	Mr. Kayengeyenge Etienne	(Burundi)
Rapporteur:	Mr. Joseph Kabore	(Upper Volta)

B. AGENDA

9. The Conference adopted the following agenda:

1. Opening of the Conference
2. Election of officers
3. Report on credentials
4. Adoption of the rules of procedure
5. Adoption of the agenda and organization of work
6. Establishment of technical committees
7. (a) Country and institutional reports highlighting progress made since the fourth Conference
   (b) Progress made in the implementation of resolutions adopted at the fourth Conference
8. Review of the latest techniques and developments in:
   (a) (i) Geodesy
   (ii) African Doppler Survey programme
   (b) Topographic mapping
   (c) Cadastral surveying and urban mapping
   (d) Hydrographic surveying and nautical charting
9. Map preparation and reproduction (including automated cartography)
10. Thematic and small-scale mapping
   (a) Cartographic inventory for Africa
   (b) Small-scale mapping
   (c) National atlases
11. Standardization of geographical names
12. Technical assistance

13. (a) African Remote Sensing Programme

(b) Remote sensing for cartography and resources inventory

14. Lagos Plan of Action, with reference to:

(a) Institution-building

(b) Education and training in cartography and remote sensing

15. Other matters

(a) The future of regional cartographic conferences for Africa

(b) Feasibility and practicability of United Nations inter-regional cartographic conferences

16. Date and place of the sixth United Nations Regional Cartographic Conference for Africa

17. Consideration and adoption of the report of the fifth Conference

18. Closure of the Conference.

10. Agenda items 1 to 7 and 15 to 18 were debated in plenary, while the Committees dealt with the following items respectively:

Committee I	:	Items 12, 14 and 15
Committee II	:	Items 8, 9 and 15
Committee III	:	Items 10, 11, 13 and 15

C. ACCOUNT OF PROCEEDINGS

Opening addresses

11. The Deputy Prime Minister welcomed all participants and emphasized the important role which cartography could play in the process of socio-economic development, particularly in developing countries. He hoped that all African countries would realize the importance of the Conference and enjoined them to come up with resolutions and recommendations that would augur well for the development of cartography in Africa.

12. In his opening statement, Mr. Adebayo Adedeji, Executive Secretary of the Economic Commission for Africa, expressed his gratitude to the Government and the people of Egypt for the excellent arrangements made for the Conference and for the warm African hospitality afforded to all participants.

13. He further expressed delight that the fifth Conference was being held at the time when the Commission would be celebrating its Silver Jubilee and noted that the decisions and recommendations of the Conference would constitute one of the inputs to the Conference of Ministers of the Commission. He also recalled that the Conference was the first of the series following the adoption of the Monrovia Strategy for the Economic Development of Africa and of the Lagos Plan of Action and the Final Act of Lagos by African Heads of State and Government at their second extraordinary summit held in Lagos, Nigeria, in April 1980.

14. The resolutions adopted during the fourth Conference and addressed specifically to ECA for their implementation had nearly all been implemented. However, he pointed out that many countries were yet to establish cartographic institutions or units at the national level with the result that they still depended on countries outside Africa to meet their cartographic needs. He stated further that some member countries still preferred to send their students abroad while adequate facilities for such training were available within the continent in the institutions established by member States themselves.

15. Taking note of the low level of attendance at the Conference, the Executive Secretary finally requested the Conference to look into the future of regional cartographic conferences for Africa and to examine the possibility of holding United Nations interregional cartographic conferences as requested by the Economic and Social Council in its resolution 1981/6.

16. Mr. Mohamed Abdel Hadi Samah, Minister of Irrigation, then addressed the Conference. He emphasized the need for rapid development of cartographic techniques and urged institutions in Africa to relate closely their infrastructure to such developments.

17. He further stated that training of qualified personnel was a real challenge, and appealed to all participants to assist ECA in its effort in establishing institutions within the continent for training personnel in that field.

Country and institutional reports [item 7(a)]

18. All participating member countries either summarized their country papers or gave an overview of their countries' activities during the period between the fourth Conference (1979) and the fifth Conference. A large majority of them had embarked upon basic mapping of their territories, preparation and revision of small- and medium-scale topographic maps, production of large-scale and thematic maps for development projects, cadastral surveying and township mapping as well as publication of national atlases and verification and strengthening of geodetic networks either as a contribution to the African Doppler Survey programme (ADOS) or as extension to existing networks.

19. Some member countries were able, during the period under review, to establish or strengthen their national cartographic institutions but some were still to do so. An appeal was made to the Economic Commission for Africa, other African countries and co-operating developed countries to assist such countries in carrying out feasibility studies and providing them with required equipment which would enable them to develop their national cartographic capabilities.

20. A few countries also reported on their efforts to develop technical and professional manpower in the field of cartography whilst some gave an account of their efforts in developing adequate training institutions at the national level for both types of manpower. Others still depended either on facilities available in other African countries or in countries outside the region.

21. Some countries reported on their activities in satellite remote sensing and their involvement in the application of new techniques such as multispectral airborne and infra-red photography. Representatives of countries not yet participating in the African remote sensing programme expressed their interest to do so as early as possible.

22. The Regional Centre for Training in Aerial Surveys at Ile-Ife, Nigeria, and the Regional Centre for Services in Surveying, Mapping and Remote Sensing at Nairobi, Kenya, reported on their efforts in sensitizing member States and in staff training programmes. They also reported on problems they were facing, particularly, inadequate membership and lack of financial support from member States.

23. The Secretary-General of the African Association of Cartography emphasized the need to develop geographic sciences for socio-economic development, especially in Africa. He made an appeal for strengthening regional co-operation and proposed the harmonization of existing structures for better co-ordination and the formation of co-ordinating bodies in complementary fields such as cartography, remote sensing, geodesy etc.

24. The President of the Commission for Geodesy in Africa gave an account of the activities of his Commission since the fourth Conference. He emphasized the need for technology transfer and the establishment of basic infrastructure for the implementation of the Lagos Plan of Action.

25. The representative of the International Cartographic Association (ICA) stated that four seminars, one of which had been held in Nairobi in 1979, were organized by his organization and that it had also published, in 16 languages, a directory on cartography.

26. The representative of France reported on the contribution of his country, mainly through IGN, to the development of cartography in a number of member countries. France was also assisting member States in the development of remote sensing techniques, the implementation of the ADOS programme and in training technicians and engineers.

27. The representative of the Netherlands reported on the activities of the International Institute for Aerial Surveys and Earth Sciences which trained some 50 African students per year. The existing training programmes were being restructured and new programmes would be established in the fields of photogrammetry and cartography.

28. The representative of Canada informed the Conference about the six-year periodic surveys of the United Nations on the status of world cartography including Africa for the period 1968 to 1980 (World Cartography, volumes XIV and XVII, United Nations, New York).

29. All the participating observer countries presented technical papers at relevant committee sessions.

Progress made in the implementation of resolution adopted at the fourth Conference [item 7(b)]

30. ECA presented a comprehensive paper on the activities it had undertaken towards the implementation of the resolutions adopted at the fourth Conference held in Abidjan, the Ivory Coast, 1979.

31. The Conference took note of the paper.

D. REPORTS OF THE TECHNICAL COMMITTEES

32. The three technical committees set up by the Conference presented their respective reports on the agenda items referred to them. They were considered at plenary sessions before the adoption of the report of the Conference. The reports are attached as annexes.

Other matters (item 15)

33. The secretariat introduced document E/ECA/NRD/CART/6 entitled: "The future of United Nations Regional Cartographic Conferences for Africa", and highlighted the concern of ECA about the poor participation by member States at the Conferences. It also echoed the views which had been expressed in two other documents. The Conference discussed the issue in depth in plenary and finally decided in favour of continuing the regional conferences until the United Nations Economic and Social Council decided otherwise.

Date and place of the sixth Conference (item 16)

34. The Conference agreed to convene the sixth United Nations Regional Cartographic Conference for Africa at ECA headquarters, Addis Ababa, during 1986. It agreed also that if any member State wished to host the Conference, it should give notice of its intention to do so within six months of the date of the fifth Conference. The Economic Commission for Africa was requested to fix the dates for the Conference and communicate them to member States as soon as practicable.

Consideration and adoption of the report (item 17)

35. The Conference adopted the present report, together with the resolutions contained in section E.

Closure of the Conference

36. Following the adoption of the report, after the customary exchange of courtesies, the Chairman declared the Conference closed.

E. RESOLUTIONS ADOPTED BY THE FIFTH UNITED NATIONS REGIONAL CARTOGRAPHIC CONFERENCE FOR AFRICA

Resolution 1(V): Sixth United Nations Regional Cartographic Conference for Africa

The Conference,

Mindful of the usefulness and importance of regional cartographic conferences for Africa in providing a forum for exchange of experience, transfer of technology and review of the development trends of national cartographic institutions,

Aware that the majority of elements in the programme of work of the Economic Commission for Africa in the field of cartography and remote sensing emanate from these conferences,

Recommends that, unless the secretariat of the Commission receives, within six months from March 1985, an offer from a member State to host the sixth Conference, the Commission should convene the sixth United Nations Regional Cartographic Conference for Africa at its headquarters in Addis Ababa within the first quarter of 1986.

Resolution 2(V): Future United Nations Regional Cartographic Conferences for Africa

The Conference,

Observing that there is a decline in the number of member States attending the Regional Cartographic Conference for Africa,

Noting that this situation can be remedied by the establishment of a Standing Committee for future Conferences and by involving United Nations Headquarters in them,

1. Recommends that a standing committee composed of the Economic Commission for Africa, the Commission for Geodesy in Africa, the African Association of Cartography and the prospective host country be established to ensure the effective administrative and technical preparations for future Conferences;

2. Recommends further that United Nations Headquarters should provide financial assistance for the convening of future Regional Cartographic Conferences for Africa.

Resolution 3(V): Establishment of a series of topographic maps at the scale of 1:250 000

The Conference,

Noting the importance of topographic mapping for the exploration and development of natural resources as emphasized in the Lagos Plan of Action,

Mindful of the recommendation of the first International Symposium on Crustal Movements in Africa held at ECA Headquarters in May 1981 regarding the high priority that should be accorded to the establishment of adequate topographic maps at the scale of 1:250 000 as the base for geological, geophysical and geochemical surveys,

Recommends that the Commission in co-operation with African Association of Cartography and Commission for Geodesy in Africa, should

(a) Take the necessary action to form a technical working group to examine this proposal and subsequently draft a set of specifications for this type of mapping;

(b) Assist in mobilizing technical assistance and help to promote intra-African co-operation for the completion of a homogenous set of maps in a reasonable period of time.

Resolution 4(V): Hydrogeological map of Africa

The Conference,

Aware that an international hydrogeological map of Africa would promote better implementation and harmonization of national development policies for inventory projects and the development of underground water resources in African States,

Noting the information submitted by the African Association of Cartography concerning the planning of the second Meeting of Cartography and Hydrogeology Experts,

1. Calls upon all African countries to give this project their fullest support;

2. Requests all States members of the Economic Commission for Africa and the Organization of African Unity to give every support to the African Association of Cartography to ensure the proper co-ordination and good take-off of this project on a sound basis.

Resolution 5(V): Offers for training facilities

The Conference,

Mindful of the ever increasing need for manpower at all levels in the different fields of cartography,

Noting the offers by the Ivory Coast, Morocco, Nigeria and Tunisia to assist member States in training their nationals in their respective areas of competence,

Recommends that member States wishing to take advantage of the offers should do so.

Resolution 6(V): Evaluation of training institutions and their structures in Africa

The Conference,

Aware of the lack of skilled manpower at the technician and professional levels in most African countries in the various disciplines of cartography,

Emphasizing the need to benefit from available facilities for the teaching of cartography within and outside the African continent,

Noting with satisfaction the creation of the Regional Centre for Training in Aerial Surveys at Ile-Ife, Nigeria, and the role it is playing in training specialists from all over Africa,

Further noting with satisfaction the invaluable services being rendered to member States by the Regional Centre for Services in Surveying, Mapping and Remote Sensing in Nairobi, Kenya,

Mindful of the inadequate membership of these centres and the meagre resources available for their development, situations which have limited the scopes of the services they are rendering to member States,

1. Calls upon all member States to participate actively in these centres with a view to making them viable and thereby developing them to their full capacity;

2. Recommends that the Economic Commission for Africa in collaboration with the African Association of Cartography should undertake, within the next six months, a mission for the purpose of assessing the training requirements of each member State and the various levels at which such training will be required;

3. Requests that the report of the mission be used as a basis to explore the possibility of setting up new training structures in these centres which will meet the expressed cartographic needs of member States;

4. Further recommends that the Commission should ensure that these new training structures be followed strictly and should assist in mobilizing adequate resources for their implementation.

Resolution 7(V): Training courses offered by the Federal Republic of Germany and Poland

The Conference

Noting the offer of the training courses in different fields of cartography and geodesy offered by the Federal Republic of Germany and Poland;

Noting the desire to organize these courses in both the English and the French languages,

Recommends that as far as feasible the courses to be organized by these two countries should be bilingual and that the Economic Commission for Africa, the Commission for Geodesy in Africa and the African Association of Cartography should ensure that the courses are organized in these two languages.

Resolution 8(V): African Doppler Survey

The Conference,

Considering the scientific, technical and economic importance of a unified geodetic network for the entire African countries,

Aware of the progress made in the field of spatial geodesy,

Noting with satisfaction the progress achieved by the African Doppler Survey project,

Bearing in mind the pertinent resolutions adopted by the first, second and fourth United Nations Regional Cartographic Conferences for Africa,

1. Requests the International Association of Geodesy (Commission for Geodesy in Africa and International Co-ordination of Space Techniques for Geodesy and Geodynamics) and the African Association of Cartography promptly to set up an adequate African Doppler Survey computation centre in Africa in addition to the Nairobi Centre from the consortium made up of Algeria, the Ivory Coast and Tunisia;

2. Recommends that the African Association of Cartography and the Economic Commission for Africa intensify their contacts with African countries members of the International Association of Geodesy and with financial institutions with a view to:

(a) Ensuring the success of the African Doppler Survey project through effective involvement of all countries concerned by implementation of the project;

(b) Sponsoring with the International Association of Geodesy and African computation centres Doppler training courses in Africa and co-ordinating courses which will be given in English and French at Nairobi and Yamoussoukro respectively in October 1984 at the latest;

(c) Obtaining Doppler techniques training scholarships;

(d) Ensuring, through the Nairobi computation centre and the consortium acting as a second African computation centre, the transfer of technology and preparation of the post-African Doppler Survey phase.

B

The Conference,

Recognizing that the African Doppler Survey programme has a key place in the development of geodetic networks in Africa,

Recognizing that the full potential of the programme can be realized only by its maximum use for scientific purposes,

Recommends that member States authorize the release of Doppler data of the points of the zero-order network of the programme for scientific purposes.

C

The Conference,

Noting the progress report submitted by the Nairobi Centre in relation to the African Doppler Survey,

Observing that its efforts as the executing agency are constrained by lack of financial support, as well as delay in participation by several member States in the project,

1. Recommends that the Economic Commission for Africa in collaboration with the Commission for Geodesy in Africa and the African Association of Cartography, should take action to facilitate the participation in the project of countries which have problems in this direction;

2. Also recommends that the Economic Commission for Africa encourage each member State and interested bodies or organizations to offer financial support to the Nairobi Centre for the execution of the project.

Resolution 9(V): Geodetic data bank

The Conference,

Considering the need for making geodetic data readily available,

Conscious of the present scarcity of data on the continent of Africa,

Realizing that some of the data are located in various places and are at times not readily available,

Noting that geodetic, surveying, mapping and remote sensing activities by African countries are on the increase,

Noting also the steps taken by the Commission for Geodesy in Africa to establish a data bank committee for the purpose of creating a central data bank and four other regional data banks,

Recommends that:

(a) Member States and all organizations concerned should support, and get involved with, the efforts of the Commission for Geodesy in Africa in the creation of the data banks;

(b) All data held by various agencies outside and within the continent be made available to the central data bank and the relevant sub-regional data banks for storage;

(c) All data from future geodetic mapping and remote sensing activities in the continent should be deposited with the relevant sub-regional and central data banks;

(d) All such data, after incorporation in the data banks, should be made available to all African Governments, institutions of higher learning and international scientific bodies involved in geodetic surveying, mapping and remote sensing activities.

Resolution 10(V): Directory of Cartographic Training Centres

The Conference,

Aware of the importance of training as a prerequisite for the development of cartography in Africa,

Recalling the provision of resolution 7 adopted by the fourth United Nations Regional Cartographic Conference for Africa,

1. Calls upon the Economic Commission for Africa and the African Association of Cartography to compile, as a matter of urgency, a list of cartographic training centres in member States which will form the basis of a study on the needs in skilled manpower in cartography at national level;

2. Recommends that the results in this study be published and distributed among member States as well as among the regional centres as a basis for considering the requests for the possible regionalization of certain national centres.

Resolution 11(V): Cartographic inventory of basic data for Africa

The Conference,

Recalling efforts made by the Economic Commission for Africa to compile a cartographic inventory of basic data for Africa,

Aware that this scientific work is important in promoting better dissemination of information among African countries and is instrumental in the establishment of a cartographic data bank in Africa,

Mindful of the difficulties which have hampered the progress of this project,

Noting the need to have available the results of this inventory as soon as possible,

Appreciating the arrangement which the Economic Commission for Africa has made with the United Nations Educational, Scientific and Cultural Organization to co-publish the atlases of the inventory,

1. Recommends that the Commission should take the necessary action towards the compilation of this project;

2. Further recommends that regional organizations and African countries should provide information for the continuous updating of the atlases.

Resolution 12(V): Standardization of geographical names

The Conference,

Recognizing the importance of standardization of geographical names from the political, social and economic points of view,

Conscious of the fact that national standardization of geographical names serves as a basis for standardization at the international level,

Noting with satisfaction the progress made by some African countries in this regard,

1. Recommends that all African countries intensify their efforts towards the standardization of geographical names in their respective countries;

2. Requests the Economic Commission for Africa, in collaboration with the African Association of Cartography, to sensitize member States through the organization of seminars in each of the existing divisions and to assist African member States which have not yet set up national geographical names committees to do so.

Resolution 13(V): Declaration of Year of Cartography in Africa

The Conference,

Mindful of the fact that cartographic organizations of member States are at various stages of development,

Conscious of the resolution adopted by the Council of the African Association of Cartography at its third session held in Addis Ababa in March 1981 calling for the observance of a Year of Cartography in Africa,

1. Recommends that the secretariat of the Economic Commission for Africa, in collaboration with that of the Organization of African Unity, should take the necessary steps before 1984 to declare 1986 as the "Year of Cartography in Africa";

2. Requests the Economic Commission for Africa, the African Association of Cartography and all regional organizations to prepare the programme of activities for 1986 and to use all means at their disposal to implement this project.

Resolution 14(V). Co-ordination

The Conference,

Mindful of the seriousness of the world economic recession with particular reference to its impact on African economies which has undermined the efforts of member States to strengthen the existing institutions and which in turn affects their development programmes,

Noting the strategies outlined in chapter III of the Lagos Plan of Action on natural resources concerning the economic development of African countries,

Taking into account the pressing needs of African countries for cartographic services to ensure their socio-economic development,

1. Recommends that a meeting of regional or subregional cartographic organizations be held as early as possible under the auspices of the Economic Commission for Africa and the Organization of African Unity in order to

(a) Harmonize their structure and prepare complementary programmes of work which will ensure their viability,

(b) Ensure representation of these organizations in the technical meetings preceding the Commission's Conference of Ministers and the Council of Ministers of the Organization of African Unity;

2. Urges the Commission to put at the disposal of these institutions available material for the achievement of their set objectives;

3. Requests the Commission and the Organization of African Unity to organize the said meeting during 1984.

Resolution 15(V): Publication of technical papers

The Conference,

Noting the value of the technical papers presented to the Conference,

Requests the Economic Commission for Africa, in co-operation with the Egyptian Survey Authority, to take the necessary action to publish a volume containing the Conference papers, with an appropriate indication of the papers read out at the Conference, those only presented as well as those submitted to the Conference.

Resolution 16(V): Vote of thanks

A

The fifth United Nations Regional Cartographic Conference for Africa,

Mindful of the effort and work required for the preparation and organization of the Conference,

Aware of the considerable task undertaken by the Government of Egypt in preparing and organizing this Conference,

Appreciating the significance which the Government of Egypt attaches to cartographic activities in Africa as well as to recent developments of the science in the world at large,

Further appreciating the traditional African warm welcome and fraternal hospitality extended to participants by the Government and the people of Egypt,

Convinced of the excellent physical and support facilities made available for the convening of the Conference,

1. Expresses its heartfelt gratitude to His Excellency Mohammed Hosni Mubarak, President of Egypt, the Government and the people of Egypt and in particular to the Organizing Committee;

2. Requests the Chairman of the Conference to convey the contents of this vote of thanks to His Excellency the President and the people of Egypt.

B

The Conference,

Noting the volume of work required for the preparation and the good organization of the Conference so as to ensure successful discussions between member States, international organizations and observers,

Aware of the important role played by Cartography during the past two decades in the development, co-ordination and progress of the African continent,

1. Expresses its profound gratitude to the Economic Commission for Africa for having provided the necessary services which allowed the Conference to conduct its work in a cordial atmosphere;

2. Sends the compliments and wishes of all participants assembled at this fifth United Nations Regional Cartographic Conference for Africa to the Economic Commission for Africa, for the success of its Silver Jubilee Anniversary celebrations.

ANNEX I

REPORT OF TECHNICAL COMMITTEE I ON TRAINING AND CO-OPERATION

Committee I dealt with items 12, 14 and 15 of the agenda which covered technical assistance, the Lagos Plan of Action with reference to institution-building and education and training in cartography and remote sensing, as well as the future of United Nations Regional Cartographic Conferences for Africa.

In considering the agenda item on technical assistance, the Committee heard a presentation by the representative of Poland. He announced that his organization (GEOKART) was willing to send lecturers to African countries to conduct two-month courses in specific fields of cartography, and that Poland had acquired three GAPA Doppler sets for training in Geodesy and for Doppler work in Africa. Interested countries would however pay for travel costs from and to Poland as well as meet the local living costs. The Committee, having considered the document, noted the offer by Poland and agreed to recommend the courses to member States.

Regarding agenda item 14, the ECA secretariat introduced document E/ECA/NRD/CAPT/1 on relevant parts of the Lagos Plan of Action on natural resources particularly chapters III and VIII on cartography and remote sensing and the regional institutions. The highlights of the paper were the poor participation by member States in existing regional cartographic institutions and the lack of funds for established institutions to develop to full capacity. The paper then warned of the danger of proliferation of institutions which might further undermine the development of the institutions.

The representatives of Egypt, the Ivory Coast, Morocco, Nigeria and Tunisia made statements concerning training facilities in their respective countries from which it was clear that some countries were willing to extend to others the training facilities existing in their national institutions. The Committee endorsed the idea that member States should make use of training facilities existing in Africa for their manpower development.

The Committee took note of the reasons given for the poor participation of member States in regional centres and proposed that determined efforts should be made by member States to utilize facilities available at the existing regional centres instead of depending solely on technical assistance to train their nationals outside Africa as such a situation would not be beneficial to the full development of the centres. It further proposed that ECA should look into the services offered by those centres and ensure that they were sufficiently developed to meet the needs of member States at various levels of technology.

The representative of the United Republic of Tanzania presented a report on the ARDHI Institute in his country outlined the training facilities available and mentioned that other countries such as Botswana, Uganda and Zambia were making use of the Institute whose doors were open to other countries. The Committee noted the report and recommended the facilities of the Institute to member States.

Concerning a regional training centre in the Congo, a document was presented on the establishment of the Centre in Brazzaville as originally recommended by the African Association of Cartography (AAC). The Committee reiterated its stand which it had taken on the attitude towards the establishment of more regional centres, and said that the same would apply to the establishment of the centre in the Congo.

The Regional Centre for Services in Surveying, Mapping and Remote Sensing, Nairobi (Kenya) presented a document which highlighted, among other things, its financial difficulties as the executing agency for the African Doppler Survey project (ADOS). The Committee agreed to recommend that ECA, AAC and the Commission for Geodesy in Africa should co-operate in attracting the necessary financial backing from member States and international organizations, including United Nations agencies, for the success of the project.

The attention of the Committee was drawn to a recommendation made during the first International Symposium on Recent Crustal Movements in Africa which was held at ECA headquarters, Addis Ababa, in May 1981 regarding the production of topographic mapping at the scale of 1:250,000. Its attention was also drawn to the importance of topographic mapping for the exploration and development of natural resources as had been emphasized in the Lagos Plan of Action. It also referred to the high priority accorded to the preparation of adequate topographical maps at the scale of 1:250,000 as a base for geological, geophysical and geochemical surveys. It was further suggested that ECA, in co-operation with AAC and CGA, should examine the feasibility of drafting an optimum set of specifications for this type of mapping including determining the scale and mobilize appropriate technical assistance including intra-African efforts towards its completion.

The Committee noted the proposal and recommended the adoption of a resolution to that effect.

As regards the question of the future of United Nations regional cartographic conferences for Africa, the ECA secretariat introduced a document E/ECA/NRD/CART/8 in which it expressed grave concern over the declining attendance by member States at the regional cartographic conferences, and wondered whether the decisions of a minority at such conferences would necessarily reflect the views of all member States. It further expressed the concern of the United Nations Headquarters on the future of the regional cartographic conferences particularly as the regional commissions derived their work programmes from these conferences.

From the exhaustive deliberations, the Committee noted that the future of regional cartographic conferences for Africa could be ensured by the establishment of a standing committee composed of ECA, AAC, CGA and the prospective host country for the purpose of ensuring effective administrative and technical preparations for the conferences. ECA, however, advocated closer collaboration with United Nations Headquarters in convening future regional cartographic conferences for Africa.

The representative of the Regional Centre for Training in Aerial Surveys, announced to the Committee that the Centre had introduced new programmes in photo-interpretation in the fields of demography, agriculture, forestry and soil science in the first instance. AAC asked for details of those courses to be made available to its secretariat.

The Committee received a presentation on the impact of cartography on development in which a plan was proposed for new moves to bring together regional institutions under the aegis of ECA and the Organization of African Unity. It also considered other issues raised during the presentation and agreed to recommend that ECA and OAU should proclaim a "Year of Cartography in Africa", and urged that the recommendation be included as an item of the agenda of their respective

ministerial meetings. UNESCO and other international organizations were also urged to do so. AAC's request to hold jointly the sixth United Nations Regional Cartographic Conference for Africa and the fifth AAC Council session during the "Year of Cartography in Africa" was endorsed by the Committee.

The Committee agreed to recommend that ECA and AAC jointly make an evaluation of training needs, conduct an exhaustive census of regional and national cartographic schools in Africa and mobilize substantial assistance for the training of technical manpower to cater for the cartographic needs of member States.

ANNEX II

REPORT OF TECHNICAL COMMITTEE II ON NEW TECHNIQUES AND RECENT ADVANCES IN CARTOGRAPHY

Committee II was entrusted with consideration of agenda items 8, 9 and 15 pertaining to the latest techniques and developments in geodesy, topography, cadastral and urban surveys, hydrographic surveys, marine charts and map preparation and reproduction.

In considering the above items, the Committee studied all the documents submitted to it as well as country reports presented in plenary by member States, various bodies and associate member States.

In considering all the above documents, the attention of Committee II was focused in particular on the issues pertaining to the AAGS programme, the present status and development of cartography, modern cadastre, hydrographic surveys, digitization and field models, as well as cartographic equipment.

The Committee heard a progress report on the AAGS programme and noted that more than half of the African States had concluded bilateral agreements for its implementation while the rest had yet to show interest in the programme. It noted that 30 per cent of the field operations had already been implemented.

The Committee requested that AAC should be actively involved in the implementation of the project. The Committee noted the shortcoming of having only one computation centre in Nairobi and called for the establishment of another computing centre in Africa within the framework of a consortium comprising Algeria, the Ivory Coast and Tunisia.

Conclusions on the above issue can be found in document ECA/CART/INF/82 submitted by CGA and CIAC to the Conference following the special working session held concurrently with the sittings of Committee II.

With respect to the current status of cartography, it was noted that, according to United Nations statistics, the cartographic coverage of the world especially of Africa, declined sharply during the 1971-1980 period as against an increase in coverage during the preceding period (1962-1974). The Committee also noted the proliferation of ellipsoids and projection systems as well as a lack of geodetic fixed points. AAC hoped that the United Nations would continue its work on statistics and publish the results quickly so as to inform AAC and the African countries.

With respect to developments in mapping techniques, the Committee noted the introduction of field digital systems models which could be used both for cadastral surveys and large-scale cartography. There was also a marked improvement in hydrographic surveys due to the introduction of advanced techniques. The Committee was informed of the availability of improved aerial photographic equipment, more advanced than those currently in use, and of new drafting and reproduction equipment.

The Committee noted with satisfaction the possibility of establishing data banks that would use the latest techniques available in producing maps.

In conclusion, the Committee acknowledged receipt of four draft resolutions relating to its agenda.

ANNEX III

REPORT OF TECHNICAL COMMITTEE III ON THEMATIC MAPPING AND REMOTE SENSING

The Committee considered the following agenda items:

Item 10: Small-scale thematic mapping

Item 11: Standardization of geographical names

Item 13: Remote sensing.

The Committee heard reports and statements by the following countries and organizations: France, the Congo, Egypt, the Federal Republic of Germany, Nigeria, Senegal, Tunisia, the Union of Soviet Socialist Republics, the United Kingdom, African Association of Cartography (AAC), ECA secretariat, French National Geographical Institute (IGN), the International Association of Cartography and the Nairobi Regional Centre for Services in Surveying, Mapping and Remote Sensing.

I. Thematic maps, atlases and small-scale maps

1. Some countries submitted examples of thematic maps or atlases, explaining the methods used in the preparation of these documents.

(a) France submitted a 1:50,000 map showing, in addition to the physical features, the economic potentialities of farm lands.

(b) The USSR demonstrated methods used in the making of a number of school maps and atlases for use in education.

(c) IGN (France) presented a thematic model of the Niger River Basin. This system which will require the processing of a substantial topographical data package, makes for better knowledge of the water system.

(d) IGN also submitted an inventory map of the French coastline produced automatically from computer files, and showing land use and status at appropriate scales.

2. The Secretary-General of the African Association of Cartography (AAC) drew attention to the resolution adopted by the OAU Ministers for the production of the International Hydrogeological Map of Africa. He also reminded the Committee of the first Meeting of Experts held under OAU auspices. He reported that a preparatory document on the project had been prepared by the AAC for the second Meeting of Experts and that, it would be transmitted for OAU endorsement before being circulated to all the countries and African and international organizations concerned. Lastly, he invited all African countries to support the important project and to participate actively in the second Meeting of Experts with a view to launching the project on firm foundations.

II. Cartographic inventory for Africa

The representative of the ECA secretariat outlined the history of the cartographic inventory of basic data in Africa. He mentioned the difficulties, particularly the financial problems, impeding the implementation of the activities. So far 11 atlases out of 12 have been completed. Lastly, the ECA representative appealed to all countries for their effective support in the completion and up-dating of the inventory.

The AAC expressed a desire to have access to any results of the inventory. Participants emphasized the need for the earliest possible availability of the results for their use. It was therefore suggested that a mission should be sent to collect information in the field in order to accelerate the compilation of such information.

III. Standardization of geographical names

From the country reports submitted at the Conference, it can be seen that there is a growing interest in Africa in the standardization of geographical names.

The representative of the International Cartographic Association (ICA) expressed his organization's satisfaction at the establishment of national toponymic authorities in Africa. He stated that ICA was willing to extend its assistance in that field, particularly with regard to training courses organized by the United Nations. Along those lines, a technical instruction manual is being formulated by a working group established by the fourth United Nations International Conference on the Standardization of geographical names, held at Geneva in 1972.

Nigeria and the Congo, respectively representing the Western and Central Divisions of Africa in the United Nations Group of Experts, appealed to countries of the two divisions to hold regional meetings.

Tunisia recalled the proposal it had made at the Fourth United Nations Conference on the Standardization of Geographical Names to the effect that seminars should be organized with a view to stimulating greater awareness of the issue among African countries.

The ECA expressed a desire to participate in such meetings and its readiness to assist in the planning.

IV. Remote Sensing

Discussions showed the growing significance of remote sensing in the establishment of medium- and small-scale maps, particularly thematic maps. Several observer countries presented their programmes and land observation systems.

The Federal Republic of Germany presented a paper on the SPACELAB 1 programme. It plans to organize two seminars, in Nairobi and Ouagadougou, on the use of SPACELAB data and images. France gave details of the SPOT satellite and its performance. The United Kingdom described a technical co-operation project with the Nairobi Centre, for the updating of 1:1,000,000 topographical maps from Landsat images. The Nairobi Regional Centre for Services in Surveying, Mapping and Remote Sensing informed the Conference that a remote sensing manual for training purpose was being prepared. It also described a photomap project being carried out with financial assistance from Canada.